Listing of Claims:

1.   (Currently amended) A method for use in managing resources in networking, the method comprising:

adding a field to an operating system kernel software procedure, the field referencing a virtual router context;

modifying packet processing software code to cause the packet processing software code to execute in accordance with the virtual router context; and

running ~~generic~~ application code that is generically written for an operating system on an operating system that operates in multiple virtual router contexts.

2.   (Currently amended) A method for using a network device having an operating system instance that operates in a plurality of routing contexts, the method comprising:

associating a first network with a first routing context and a second network with a second routing context, wherein the first context is isolated from the second context;

receiving, at the same networking address of the network device, a first message originating from the first network and a second message originating from the second network by the network device;

associating the first message with a first application running on the operating system instance of the network device based on a determination that the first message is associated with the first routing context;

associating the second message with a second application running on the operating system instance based on a determination that the second message is associated with the second routing context; ~~and~~

creating a process in the first routing context that inherits routing context information; and

running separate operating system instances on a plurality of processors residing on the network device and implementing one IP host.

3.   (Previously presented) The method of claim 2, wherein a socket for at least one of Transport Control Protocol (TCP), User Datagram Protocol (UDP), and raw IP code associated

with the operating system instance inherits the routing context from the process in the first

routing context.

4.   (Previously presented) The method of claim 2, further comprising:

assigning to the first message a first routing context number, wherein the first message is

determined to be associated with the first routing context using the first routing context number;

and

assigning to the second message a second routing context number, wherein the second

message is determined to be associated with the second routing context using the second routing

context number.

5.   (Previously presented) The method of claim 4, further comprising:

assigning a first routing table to the first router context, wherein the first routing table is

associated with the first context number; and

assigning a second routing table to the second router context, wherein the second routing

table is associated with the second context number.

6.   (Previously presented) The method of claim 2, wherein the first and second networks are

private networks that are isolated from the Internet.

7.   (Previously presented) The method of claim 2, wherein information received by the

network device from the first network is not provided to the second network by the network

device, and wherein information received by the network device from the second network is not

provided to the first network by the network device.

8.   (Previously presented) The method of claim 2, wherein both the first message and the

second message include at least one data packet.

9.   (Previously presented) The method of claim 2, wherein the first and second messages are

received by the network device using a first network connection initiated by a first process and a

second network connection initiated by a second process, respectively, the method further

comprising:

     assigning to the first process a default first routing context number; and

     assigning to the second process a default second routing context number.

10.   (Previously presented) The method of claim 9, further comprising inheriting the default first routing context by a third process, whose parent is the first process, at the time of creation of the third process.

11.   (Previously presented) The method of claim 2, further comprising associating at least one interface to the operating system instance with a routing context.

12.   (Currently amended) A computer system comprising:

     a first network that is associated with a first routing context;

     a second network that is associated with a second routing context;

     a network device that receives messages from both the first network and second network at a networking address, wherein the network device is configured to determine that messages received from the first network are associated with the first routing context and to determine that messages received from the second network are associated with the second routing context; ~~and~~

     a process running on the first network that is associated with the first routing context, wherein the process inherits information from the first routing context when the process is created by the first routing context; and

     <u>a plurality of processors residing in the network device implementing one IP host while running multiple operating system instances.</u>

13 - 20. (Withdrawn).

21.   (New) The method of claim 1, further comprising providing an IP host that is compatible with existing protocols.

22.   (New) The method of claim 1, further comprising running separate operating system

instances on a plurality of processors residing on the network device, which implement a single

IP host.

23.   (New) An apparatus residing in a network comprising:

        a plurality of processors residing in the apparatus and running multiple operating system

instances; and

        at least one computer readable medium storing an operating system instance whose

kernel includes a field to indicate an appropriate virtual routing context within the apparatus to

handle an incoming data packet, wherein the field is heritable in the virtual routing context.

24.   (New) The method of claim 23, further comprising providing an IP host that is

compatible with existing protocols.